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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,873	07/09/2001	Clifton T. Knight	70055	5953

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EXAMINER

DEL SOLE, JOSEPH S

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/901,873

Applicant(s)

KNIGHT ET AL.

Examiner

Joseph S. Del Sole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11-18 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-18 and 23-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-8, 11-16, 18 and 23-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-8, 11-18 and 23-25 are vague and indefinite because they contain limitations that are unclear as to whether they intend to claim a method or an apparatus. Such limitations should be rewritten such that they clearly recite structural limitations. For example, the limitation "said heating medium conduits allowing the polymer to remain in a liquid state" at lines 16-17 of claim 1 is not clearly method or apparatus; however, since this is an apparatus claim the limitation must be rewritten to clearly recite structure. The examiner suggests changing this to --said heating medium conduits capable of allowing the polymer to remain in a liquid state--. The following are instances of unclear method recitations and the Examiner's suggested changes:

at line 3 of claim 2, change "die exit side to provide thermal stabilization" to -- die exit side capable of providing thermal stabilization --;

at line 3 of claim 3, change "die exit side to provide thermal stabilization" to -- die exit side capable of providing thermal stabilization --;

at line 3 of claim 4, change "die exit side to provide thermal stabilization" to -- die exit side capable of providing thermal stabilization --;

at lines 3-4 of claim 5, change "die exit side to provide thermal stabilization" to -- die exit side capable of providing thermal stabilization --;

at line 18 of claim 8, change "allowing the polymer to remain" to -- capable of allowing the polymer to remain --;

at line 2 of claim 15, change "about said polymer channels to provide essentially" to -- about said polymer channels capable of providing essentially --;

at line 5 of claim 15 change "a geometry to provide equal" to -- a geometry capable of providing equal --;

at line 8 of claim 16 change "circumferential header feeding a heating medium" to -- circumferential header capable of feeding a heating medium --;

at line 15 of claim 16 change "heating medium conduits allowing" to -- heating medium conduits capable of allowing --;

at line 4 of claim 18 change "heating medium conduits allowing" to -- heating medium conduits capable of allowing --;

at line 14 of claim 23 change "conduits allowing" to -- conduits capable of allowing --;

at line 5 of claim 24 change "die exit side to provide thermal stabilization" to -- die exit side capable of providing thermal stabilization --.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshii et al (6,638,045) in view of Mallay (4,167,386).

Yoshii et al teach a pelletizing die (Fig 1) having a pelletizing die member with a die exit side exposed to cooling fluid (Fig 2) and a die entry side for receiving polymer fed thereto (Fig 2), the pelletizing die member having a plurality of polymer channels (Fig 3, #s 2 and 5b); a plurality of extrusion orifices (Fig 3, #s 5a and 7) connected to a respective one of the polymer channels to form an extrusion orifice section (Fig 1); a

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heating medium system with a heating medium conduit (Fig 2, #8) adjacent to each polymer channel for heating the polymer channel; a raised extrusion orifice ring encompassing the extrusion orifice sections (Fig 3, #6), the raised ring is a hardened face (col 4, lines 50-55).

Yoshii et al fail to teach the hardened face coated, having a thickness of less than 1mm and having a hardness level greater than 800HV01.

Mallay teaches a coating of tungsten carbide (tungsten carbide has a hardness level greater than 800HV01) for the purpose of making the die face of a cutter abrasion resistant.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Yoshii et al with a surface face being a coating of tungsten carbide as taught by Mallay because it has a hardness level greater than 800HV01 thus making the die face abrasion resistant.

Further regarding the thickness of the face begin less than 1mm, In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. Still further, a dimension of 1mm would be readily determined by routine experimentation in an effort to produce the optimum results. In re *Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

7. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshii et al (6,638,045) in view of Hamilton (3,847,530).

Yoshii et al teach a pelletizing die (Fig 1) having a pelletizing die member with a die exit side exposed to cooling fluid (Fig 2) and a die entry side for receiving polymer fed thereto (Fig 2), the pelletizing die member having a plurality of polymer channels (Fig 3, #s 2 and 5b); a plurality of extrusion orifices (Fig 3, #s 5a and 7) connected to a respective one of the polymer channels to form an extrusion orifice section (Fig 1); a heating medium system with a heating medium conduit (Fig 2, #8) adjacent to each polymer channel for heating the polymer channel; a raised extrusion orifice ring encompassing the extrusion orifice sections (Fig 3, #6), the raised ring is a hardened face (col 4, lines 50-55).

Yoshii et al fail to teach the hardened face coated, having a thickness of less than 1mm and having a hardness level greater than 800HV01.

Hamilton teaches a coating of ceramic (ceramic has a hardness level greater than 800HV01) for the purpose of making the die face of a cutter abrasion resistant (col 4, line 31 - col 5, line 7).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Yoshii et al with a surface face being a coating of ceramic as taught by Hamilton because it has a hardness level greater than 800HV01 thus making the die face abrasion resistant.

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Yoshii et al teach a pelletizing die (Fig 1) having a pelletizing die member with a die exit side exposed to cooling fluid (Fig 2) and a die entry side for receiving polymer fed thereto (Fig 2), the pelletizing die member having a plurality of polymer channels (Fig 3, #s 2 and 5b); a plurality of extrusion orifices (Fig 3, #s 5a and 7) connected to a respective one of the polymer channels to form an extrusion orifice section (Fig 1); a heating medium system with a heating medium conduit (Fig 2, #8) adjacent to each polymer channel for heating the polymer channel; a raised extrusion orifice ring encompassing the extrusion orifice sections (Fig 3, #6), the raised ring is a hardened face (col 4, lines 50-55).

Yoshii et al fail to teach the hardened face coated, having a thickness of less than 1mm and having a hardness level greater than 800HV01.

Wolfe, Jr teaches a brazed coating of tungsten carbide (tungsten carbide has a hardness level greater than 800HV01) for the purpose of making the die face of a cutter abrasion resistant (col 5, lines 5-10).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Yoshii et al with a surface face being a coating of tungsten carbide as taught by Wolfe, Jr because it has a hardness level greater than 800HV01 thus making the die face abrasion resistant.

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9. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swickard et al (3,461,495) in view of Mallay (4,167,386).

Swickard et al teach a pelletizing die (Fig 1) having a pelletizing die member with a die exit side exposed to cooling fluid (col 2, lines 1-21 and col 4, lines 23-26) and a die entry side for receiving polymer fed thereto (Fig 2), the pelletizing die member having a plurality of polymer channels (Fig 5, #61); a plurality of extrusion orifices connected to a

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respective one of the polymer channels to form an extrusion orifice section (Figs 1 and 3); heating medium conduits (Fig 5, #50) forming a heating medium system, the heating medium conduits including at least one conduit adjacent to each polymer channel for heating the polymer channel (Fig 5); a raised extrusion orifice ring encompassing the extrusion orifice sections (Fig 5, #66), the raised ring is a hardened face(col 4, lines 16-26); and a thermal stabilization cavity (Fig 5, #70) adjacent to each extrusion orifice in an associated extrusion orifice section, the thermal stabilization cavity defining a thermal stabilization zone between the die exit side exposed to cooling fluid and the heating medium conduits allowing polymer to remain in a liquid state up to solidification just as the polymer exits the extrusion orifice.

Swickard fails to teach the hardened face coated, having a thickness of less than 1mm and having a hardness level greater than 800HV01.

Mallay teaches a coating of tungsten carbide (tungsten carbide has a hardness level greater than 800HV01) for the purpose of making the die face of a cutter abrasion resistant.

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entry side for receiving polymer fed thereto (Fig 2), the pelletizing die member having a plurality of polymer channels (Fig 5, #61); a plurality of extrusion orifices connected to a respective one of the polymer channels to form an extrusion orifice section (Figs 1 and 3); heating medium conduits (Fig 5, #50) forming a heating medium system, the heating medium conduits including at least one conduit adjacent to each polymer channel for heating the polymer channel (Fig 5); a raised extrusion orifice ring encompassing the extrusion orifice sections (Fig 5, #66), the raised ring is a hardened face(col 4, lines 16-26); and a thermal stabilization cavity (Fig 5, #70) adjacent to each extrusion orifice in an associated extrusion orifice section, the thermal stabilization cavity defining a thermal stabilization zone between the die exit side exposed to cooling fluid and the heating medium conduits allowing polymer to remain in a liquid state up to solidification just as the polymer exits the extrusion orifice.

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Allowable Subject Matter

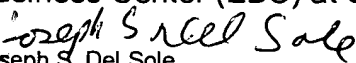
12. Claims 1-8, 11-16 and 23-25 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Correspondence

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joseph S. Del Sole whose telephone number is (571) 272-1130. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Benjamin Utech, can be reached at (571) 272-1137. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from the either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).


Joseph S. Del Sole
April 20, 2005